

PROPOSAL EVALUATION

Proposition 84 Integrated Regional Water Management (IRWM) Grant Program Implementation Grant, Round 2, 2013

| | | | |
|-----------------------|--|----------------------------|---------------|
| Applicant | Northeastern San Joaquin Groundwater Banking Authority | Amount Requested | \$ 8,296,000 |
| Proposal Title | Calaveras River Integrated Water Management Project | Total Proposal Cost | \$ 20,975,100 |

PROJECT SUMMARY

The proposal includes two projects with the following benefit types: water supply, water quality, and ecosystem restoration: (1) Wisconsin Avenue Stormwater Pumping Station Replacement and (2) Stockton East Water District (SEWD) Flood Detention and Groundwater Recharge Facility.

PROPOSAL SCORE

| Criteria | Score/ Max. Possible | Criteria | Score/ Max. Possible |
|--|-------------------------|----------------------------|-------------------------|
| Work Plan | 9/15 | Technical Justification | 2/10 |
| Budget | 2/5 | | |
| Schedule | 3/5 | Benefits and Cost Analysis | 18/30 |
| Monitoring, Assessment, and Performance Measures | 2/5 | Program Preferences | 5/10 |
| Total Score (max. possible = 80) | | | 41 |

EVALUATION SUMMARY

WORK PLAN

The criterion is less than fully addressed and documentation and rationale is incomplete and insufficient. A briefly tabulated overview of the project elements, their abstracts, and their statuses is included. These projects are not part of larger multi-phased efforts, but the two projects are interconnected. Project 2 will divert up to 73 cfs from the Calaveras River for detention/recharge. Project 1 will return up to 67.7 cfs of interior drainage back into the Calaveras River. The purpose and need of the proposal is to “protect existing homes and businesses from flood damages, reduce the frequency of overtopping of Calaveras River levees, and make use of stormwater supplies for groundwater recharge to enhance urban water supply reliability.” There is a concise justification of the need for additional groundwater recharge to address overdraft conditions and replacement; however, the frequency of overtopping of the Calaveras River levees is not well documented. Also, descriptions, deliverables, and status of each task are briefly summarized in a table, but lack sufficient detail to determine how the tasks will be completed. For example, the description for the Environmental Documentation task is “CEQA compliant environmental documentation”. Reporting submittals are discussed, but there is no information related to data management or monitoring deliverables presented in the work plan.

BUDGET

The budgets for less than half the projects in the proposal have detailed cost information, many of the costs cannot be verified as reasonable, and supporting documentation is lacking for a majority of the Budget categories described. A proposal summary budget table and project summary budgets are provided for each project contained in the Proposal. The applicant also provides opinion or estimate tables to support the project summary budgets. However, the estimates found in the supporting information do not correspond to the summary budgets. Also, the tasks in the budget are not consistent with the tasks in the work plan outline or the schedule. A brief explanation of the budget tables is included on page 77, but it does not clarify the budget/task/supporting information inconsistencies.

SCHEDULE

The criterion is less than fully addressed and documentation and rationale is incomplete and insufficient. The tasks are consistent with the tasks described in the work plan outline. While construction on project 2 will begin in June 2014, without a narrative in the schedule or sufficient work plan detail, reasonableness for many tasks cannot be determined. For example, it is unclear why construction for project 1 will not begin until early 2017 when design and permit acquisition will be completed at the end of 2014. The only activity that is taking place between 2014 and 2017 is project financing (Proposition 218), yet the work plan states that Proposition 218 funding will be completed in June 2013.

MONITORING, ASSESSMENT, AND PERFORMANCE MEASURES

The criterion is marginally addressed and documentation is incomplete and insufficient. The information provided by the applicant is unlikely to accurately assess the performance of the two projects of the proposal and few supporting details are provided. The identified monitoring targets are not appropriate for the benefits claimed. For example, the target of replacing the pump station (project 1) does not quantify or measure how the desired outcome of achieving 100-year flood protection will be reached or achieved. The targets for most of the listed goals of the proposal are simply constructing the facilities. Therefore, these targets do not measure or quantify progress towards meeting the goals and desired outcomes. Reducing or eliminating flood insurance is listed as a project 1 goal in Attachment 6, but not in the work plan. Another goal of the proposal is to remediate groundwater overdraft (project 2); however, no references are included to support the amount of water that will recharge the basin or the amount of stormwater to be pumped into the river. Similarly, no information supports how to monitor and control the surrounding land uses from utilizing the groundwater once the detention basin is created and recharging the groundwater basin. The measurement tools and methods also do not effectively monitoring the project performance and target progress, as no tools are listed and the objectives simply restated.

TECHNICAL JUSTIFICATION

Technical justification of the Proposal cannot be determined due to a lack of documentation that demonstrates the technical adequacy of the projects and the physical benefits are not well described. The applicant provided very brief information that identifies and describes the physical benefits of each project included in the proposal and includes the recent and historical conditions, without-project conditions, and relationship to other projects in the proposal in their discussion. However, the physical benefits are described without quantifiable data supporting these technical claims. For example, additional back up documentation is necessary when describing the current saline water migration levels and how the projects would reduce the current conditions. The applicant provides some narrative that attempts to characterize the physical benefits of the Proposal, but fails to provide complete technical justification. Some technical information for the project 1 is provided in Appendix E; however no technical information is provided that justifies the claims of the groundwater recharge element for net recharge acre-feet, basin-wide groundwater elevation increase, and infiltration rates. The applicant references, in Attachment 3, an October 2011 document, labeled "Report of Managed Aquifer Recharge" by SoundEarth Strategies, however no excerpts from this key report are provided in the application.

BENEFITS AND COST ANALYSIS

Collectively the proposal is likely to provide a medium level of benefits in relationship to cost, and this finding is supported by detailed, high quality analysis and clear and complete documentation. Total project cost is reported as \$27.33 million in net present value (NPV). Costs for the pump station replacement shown in Table 9 of Attachment 4 do not quite match the corresponding numbers in Table 41 of Attachment 8.

Flood damage reduction (FDR) benefits are assessed using local estimates and U.S. Army Corps of Engineers (USACE) information, primarily from its American River Watershed Common Features Project, including depth damage functions. The vehicle damages shown in Tables 26 and 27 are much larger than what is supported by the USACE memorandum “Generic Depth-Damage Relationships for Vehicles” (Table 3 – 2009). For example, the USACE memorandum only shows damage occurring at flood depths of half a foot or greater, whereas, Table 26 in the application claims 22% vehicle damage at a flood depth of zero. Other depth-damage percents for structures and contents do not exactly match the values in the referenced USACE study, though they are similar. Due to these inconsistencies, the claimed \$8.69 million in NPV of avoided damages is determined to be an overestimate. The exact corrected value is unknown, but can be no greater than \$8.36 million. Non-monetized benefits include provision of some wildlife habitat at the recharge basin, reduced water resource-based conflict, and sustainability of local groundwater resource.

Other monetized benefits are estimated based on the groundwater recharge in the basin, and include water supply benefit and pumping lift reduction. Lift benefits of \$9.75 million in NPV were based on the average net recharge over time, assumed to spread evenly across all acres. Applicant estimates that average recharge will be 27,700 acre-feet (AF) in about 2 out of 3 years and extraction in dry years (about 1 in 3) will average 17,400, resulting in an average annual increase in groundwater storage of 10,800 AF/year. However, these estimates are not well supported; meaning and claimed benefits may be lower.

The larger monetized benefit is avoided cost of water supply. Groundwater recharge would use flood water and use of existing water rights. Based on volume and frequency, it appears that most of the recharged water is not stormwater that alleviates flood flow. It is valued at the avoided cost of purchasing additional water from other local districts, \$200 per AF. The proposal claims that, in absence of the groundwater extraction from the project, SEWD would be required to pay for the 17,400 AF every year (a take or pay contract). If it is true that a take-or-pay contract would be required, then the reasonable alternative would be to purchase 5,800 AF every year rather than 17,400 AF every third year. The cost would be one third what is claimed to be avoided. Revised avoided cost would be \$1.16 million per year, or \$15.3 million in NPV. Total adjusted monetized benefits are estimated to be $\$8.36 + \$9.75 + \$15.3 = \33.4 million in NPV. Further adjustment to FDR benefits and lift reduction benefits would reduce this amount.

PROGRAM PREFERENCES

Applicant claims that five program preferences and five statewide priorities will be met with project implementation. However, applicant demonstrates high degree of certainty, and adequate documentation for five of the Preferences claimed: (1) Include regional projects or programs; (2) Effectively integrate water management programs and projects; (3) Drought Preparedness; (4) Use and Reuse Water More Efficiently; and (5) Climate Change Response Actions.